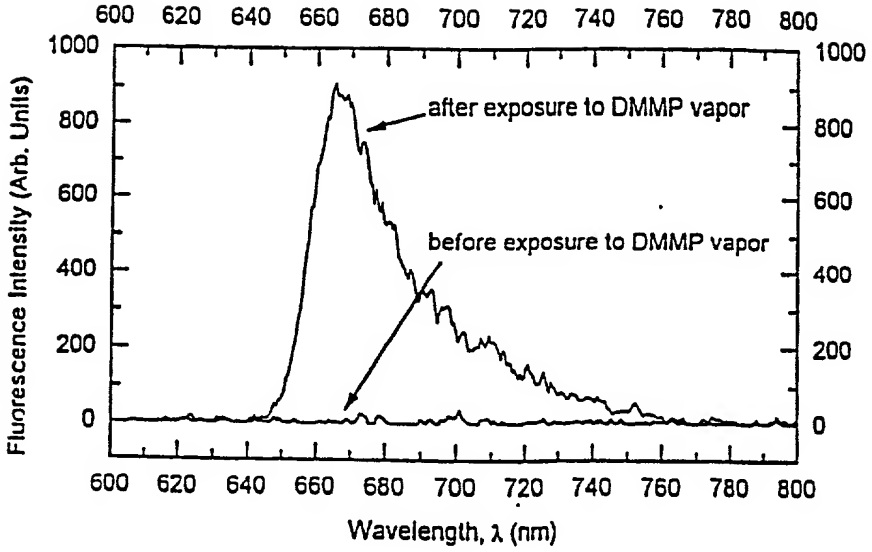
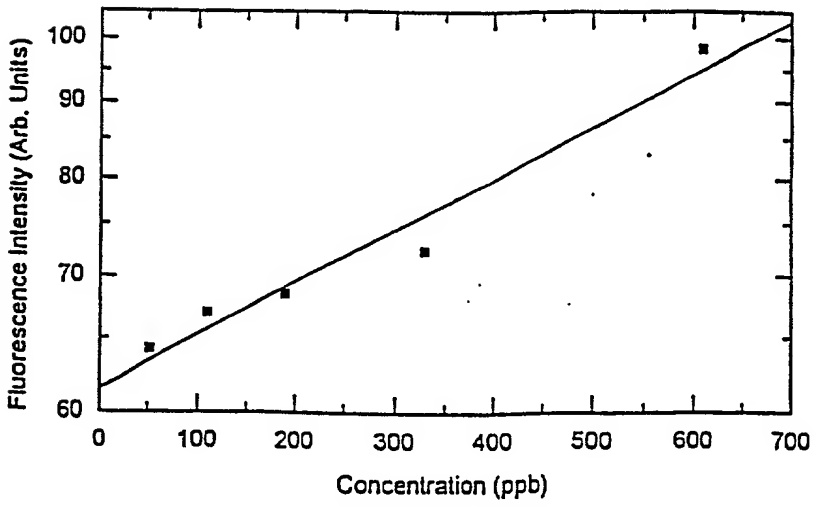


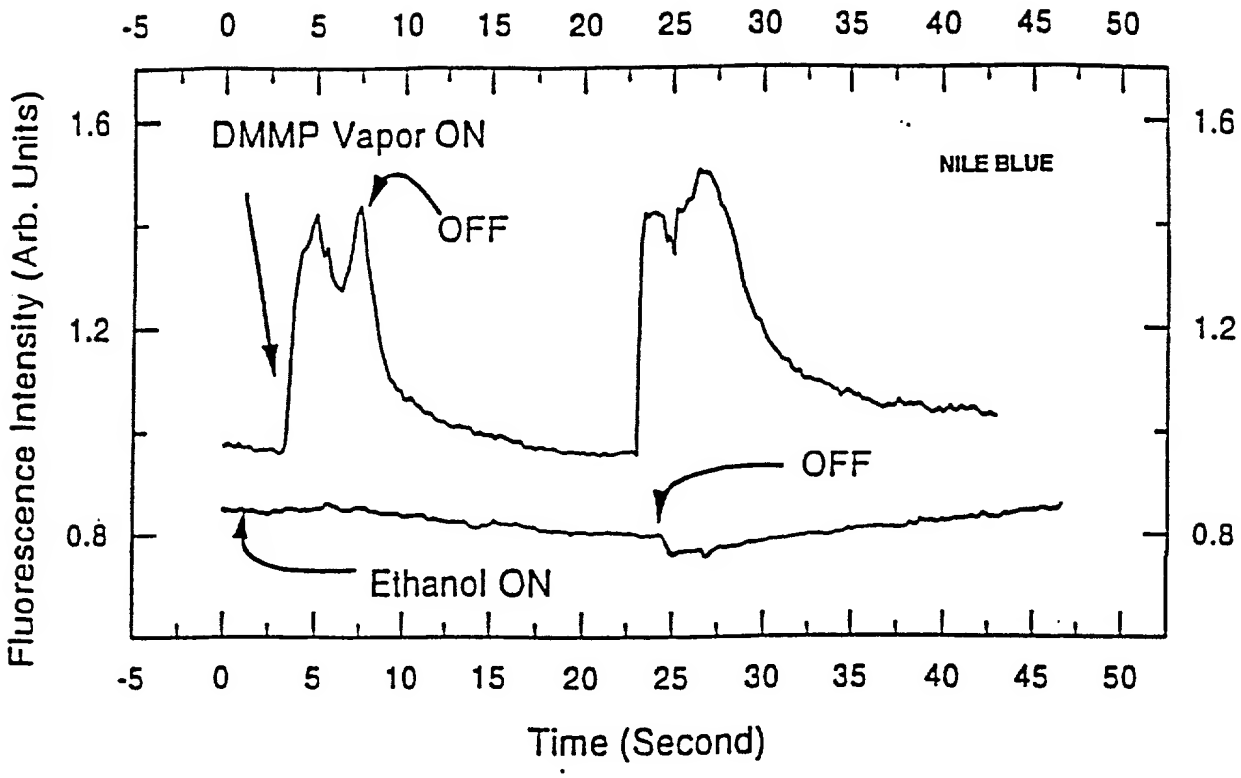
Emission Spectra of Nafion® Thin Film Containing DiIC(5) Before and After Exposure to DMMP Vapor

FIG. 1



Sensitivity and Proportionality of Nafion®/ DiIC(5) Probe to DMMP

FIG. 2



Response of Nile Red and Nile Blue Doped Polyethylene Maleate Films to DMMP

FIG. 3

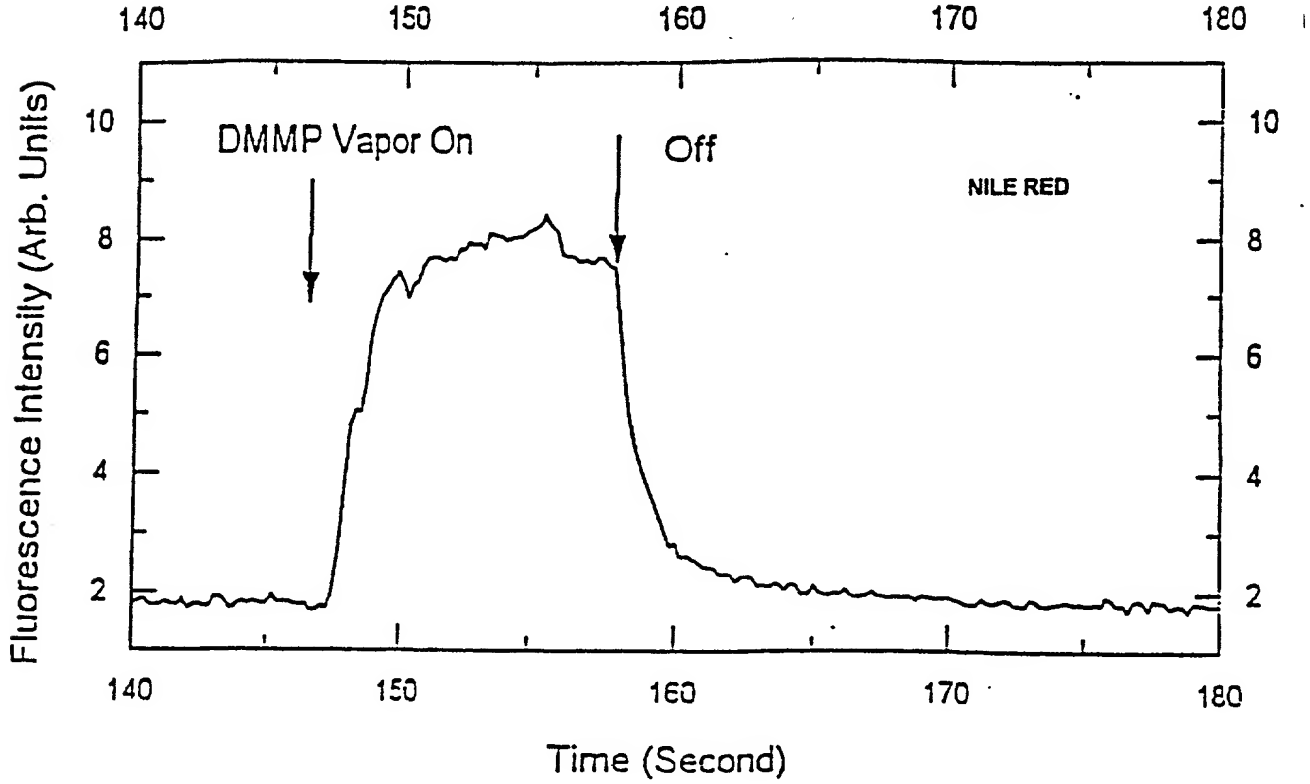
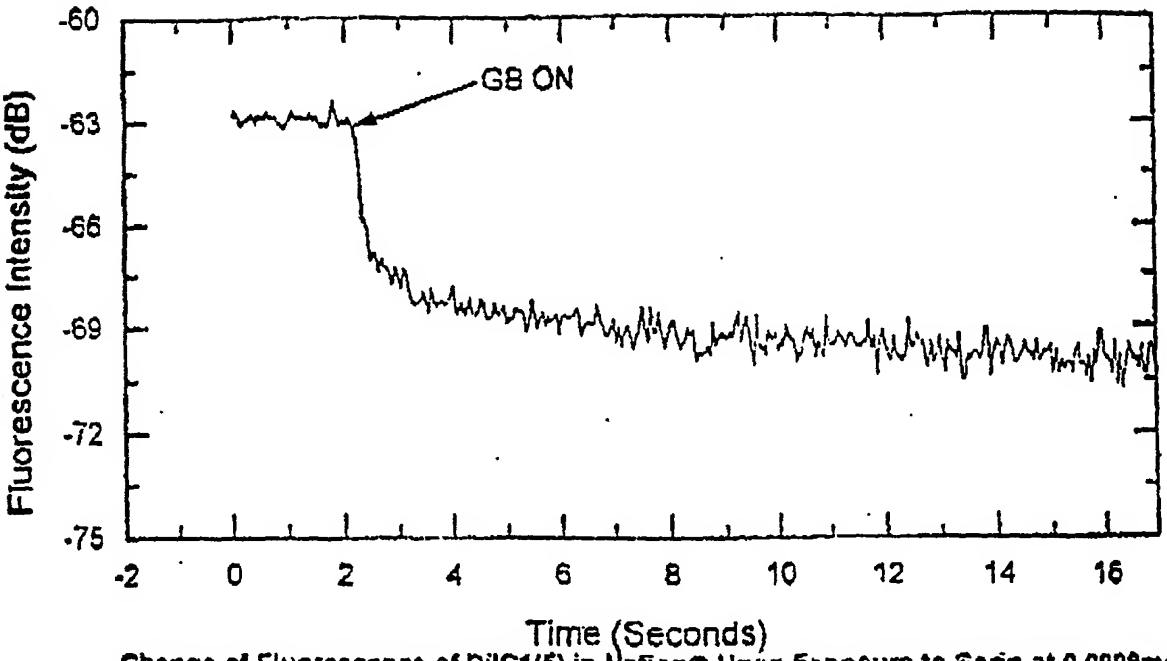
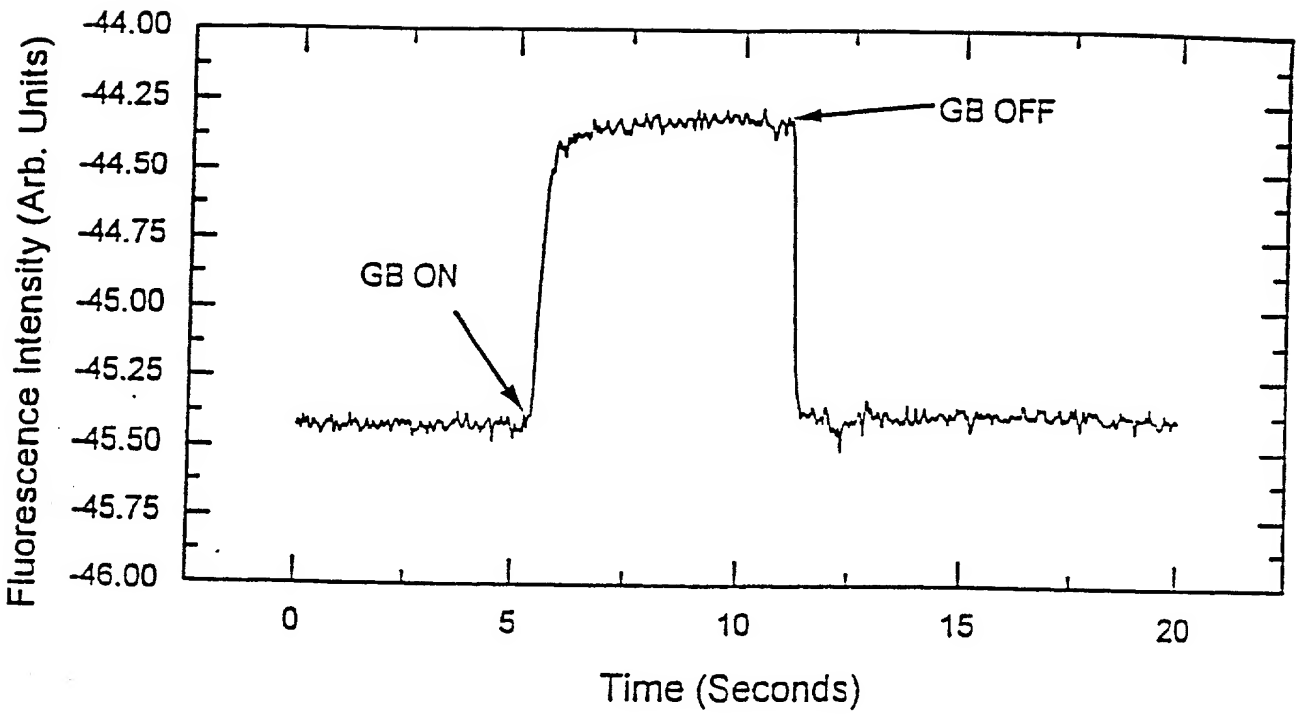


FIG. 4



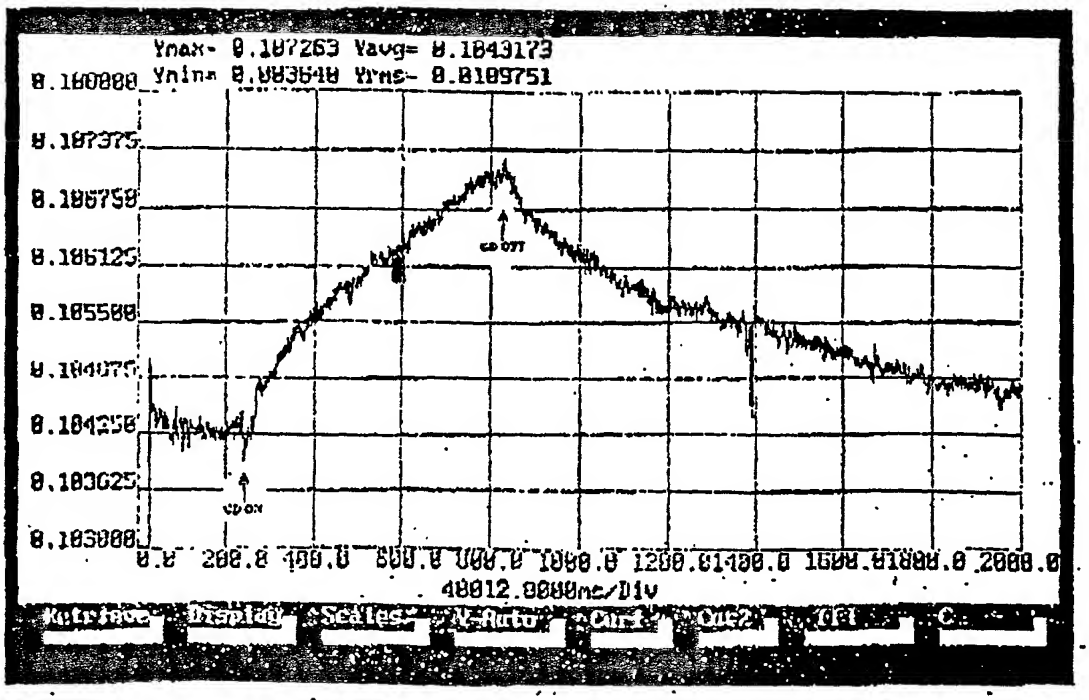
Change of Fluorescence of DiIC1(5) in Nafion® Upon Exposure to Sarin at 0.0099mg/m3

FIG. 5



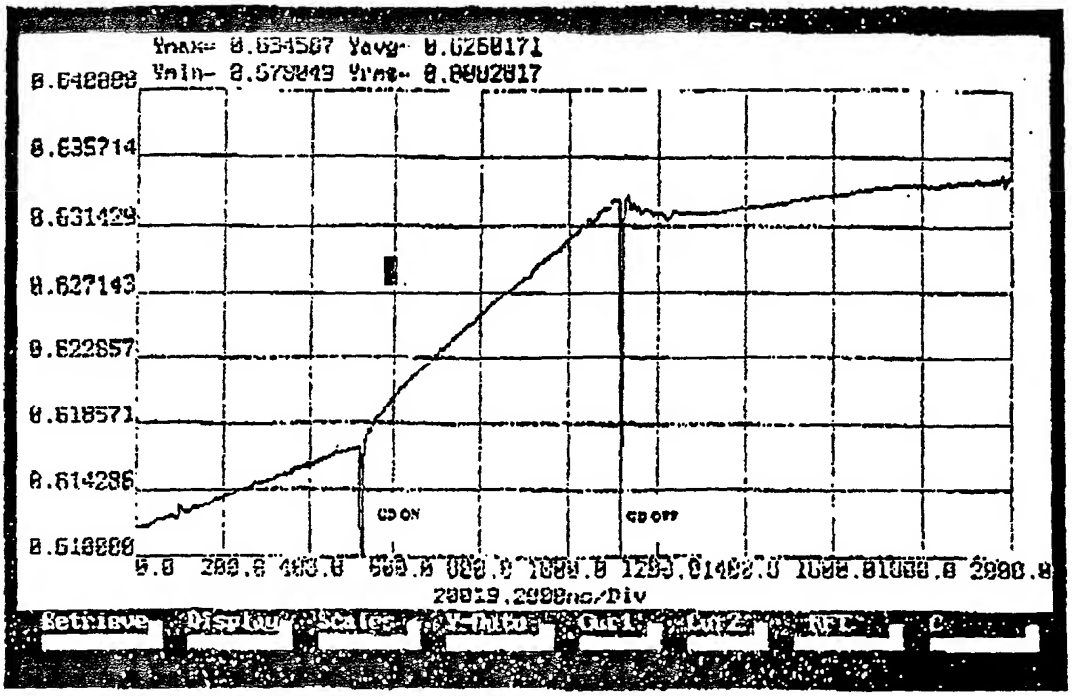
Change of Fluorescence Intensity when the Film was Exposed to Sarin.

FIG. 6



Response of an Oxazine 170/Fluoropolyol Film to GD at 520 ppb

FIG. 7



Response of an Oxazine 170/Fluoropolyol Film to GD at 41 ppb

FIG. 8

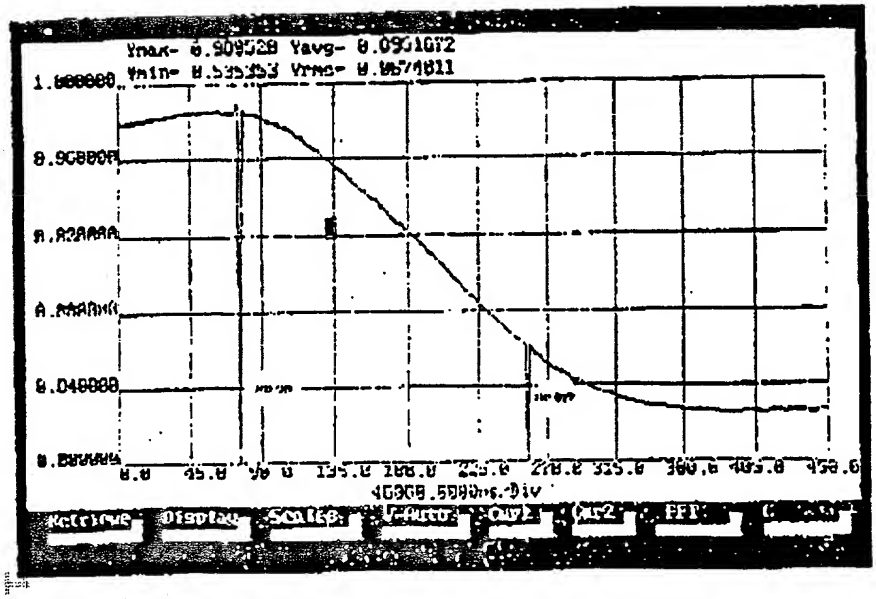


FIG. 9 A

Response of Nile Blue/PECH film to HD at 350 ppb on 27 Feb 97

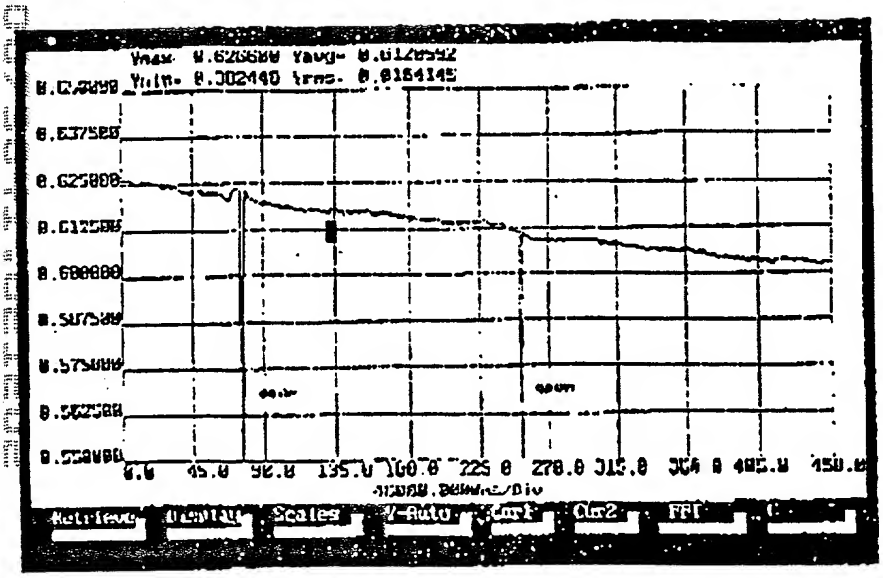


FIG. 9 B

Null Response of Nile Blue/PECH Film of Figher 5a Upon Exposure to GD at 166 ppb

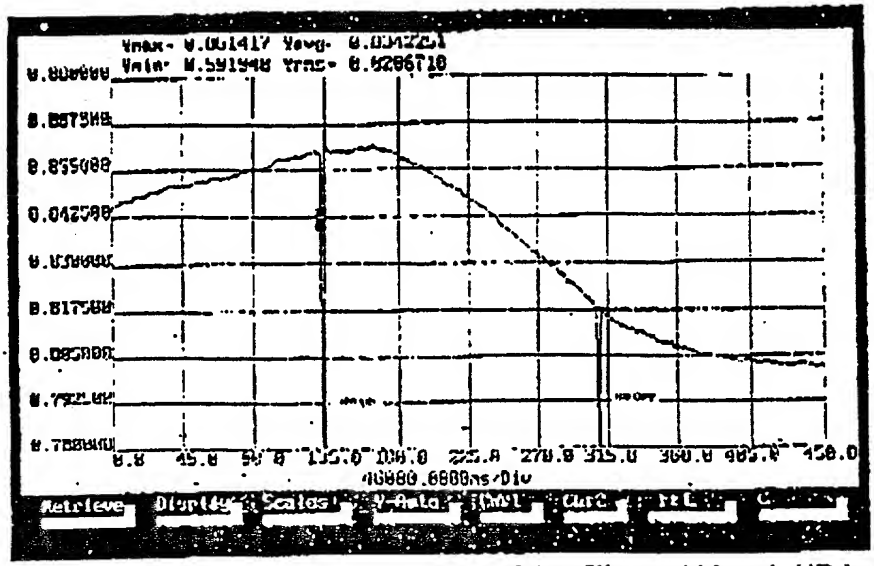
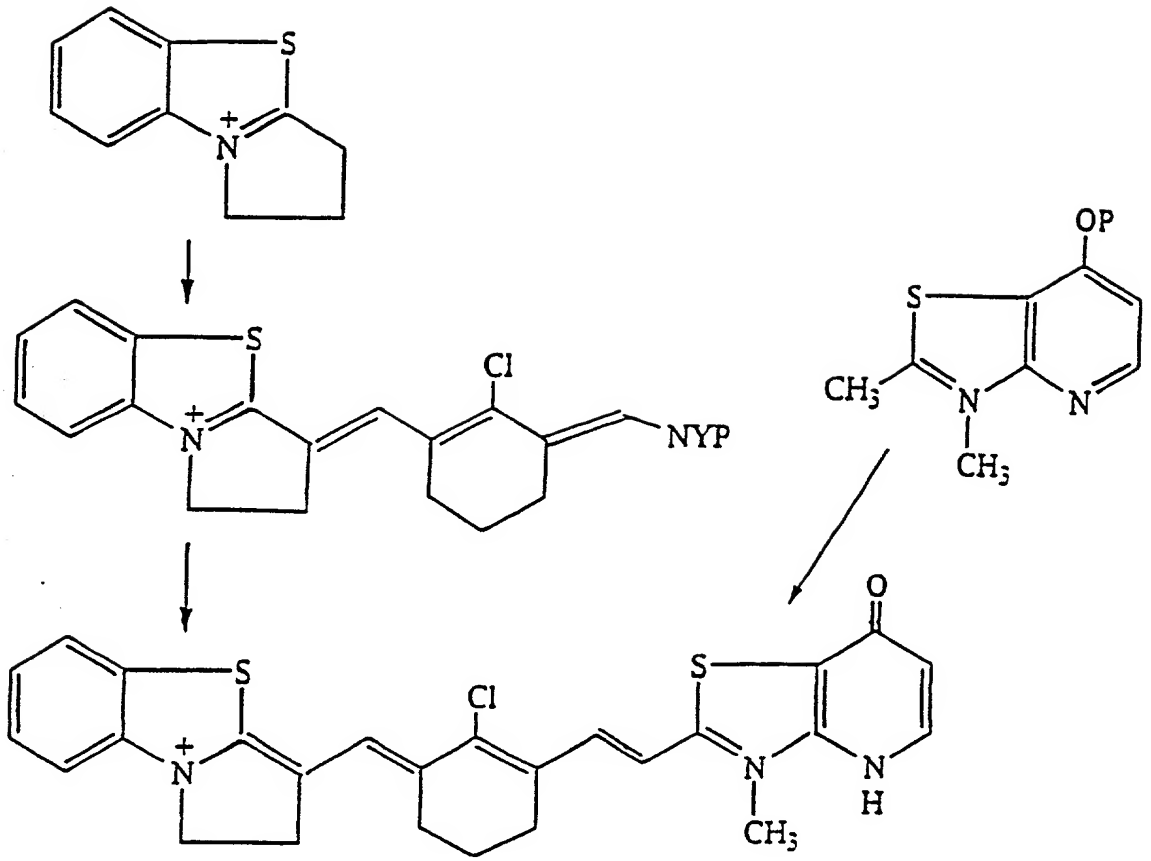


FIG. 9 C

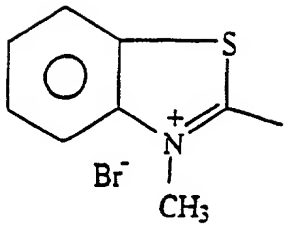
Response of Same Nile Blue/PECH Film, After Exposure to GD (at 166 ppb) Upon Re-exposure to HD (at 243 ppb)

Response of Nile Blue/PECH Film to 300 ppb HD before and after exposure to GD



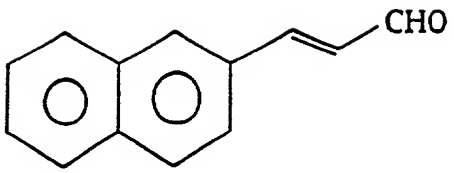
(Scheme I) Synthesis of Near-Infrared Excited Solvatochromic Fluorophore

FIG. 10



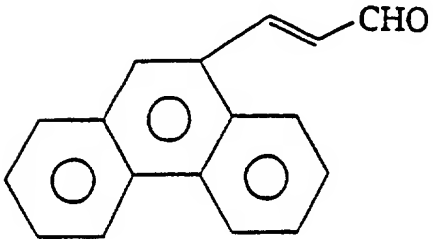
1.

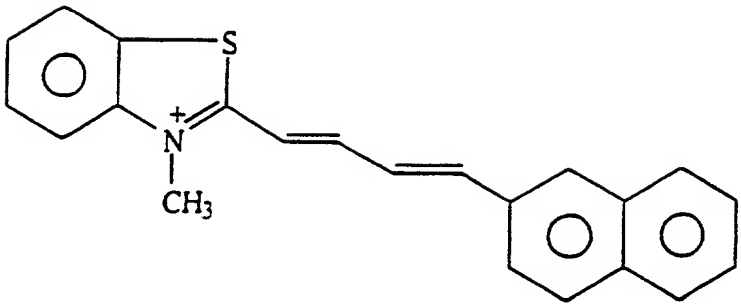
+



2.

or





1. DMF @ 150°C for 12 hours
2. $(C_2H_5)_3N$ in EtOH

(Scheme II) Synthesis of Aryl Near-Infrared Excited Solvatochromic Fluorophore

FIG. 11

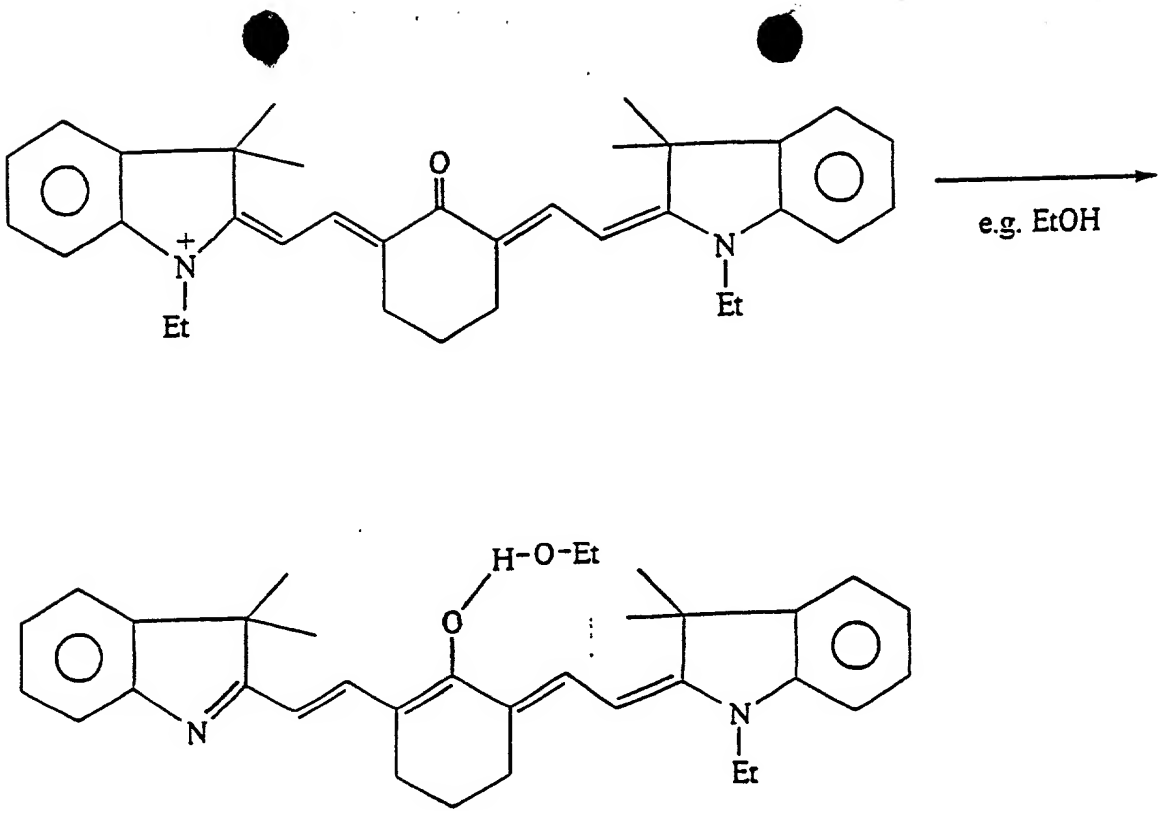
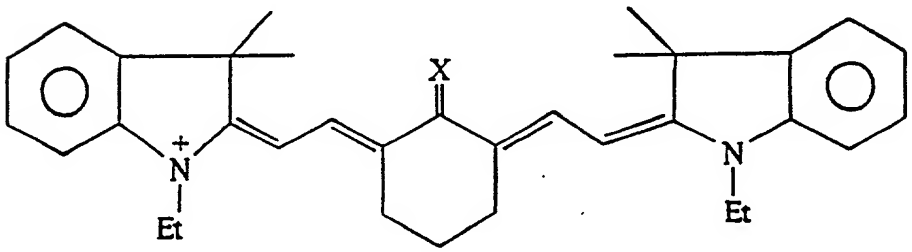


Illustration of Hydrogen Bonding to Keto-Enol Structures

FIG. 12



X = S, NH, etc.

FIG. 13